

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



United States
Department of
Agriculture

Soil
Conservation
Service

Spokane,
Washington



in cooperation with

Department of Ecology
State of Washington

STA

Water Supply Outlook for Washington

as of FEBRUARY 1, 1983

RECEIVED
FEBRUARY 2 1983
WASHINGTON STATE DEPARTMENT OF AGRICULTURE
LIBRARY



TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: Fresh powder snow on Elephant Mountain, near the West Fork of Hyalite Creek, in Montana.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W, Calgary, Alberta T3C 1A6.



WATER SUPPLY OUTLOOK FOR WASHINGTON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

PETER C. MYERS
Chief
SOIL CONSERVATION SERVICE
WASHINGTON D C

|||||
Released by

LYNN A. BROWN
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
SPOKANE, WASHINGTON

In Cooperation with

DONALD W. MOOS
DIRECTOR
DEPARTMENT OF ECOLOGY
STATE OF WASHINGTON
|||||

Report prepared by

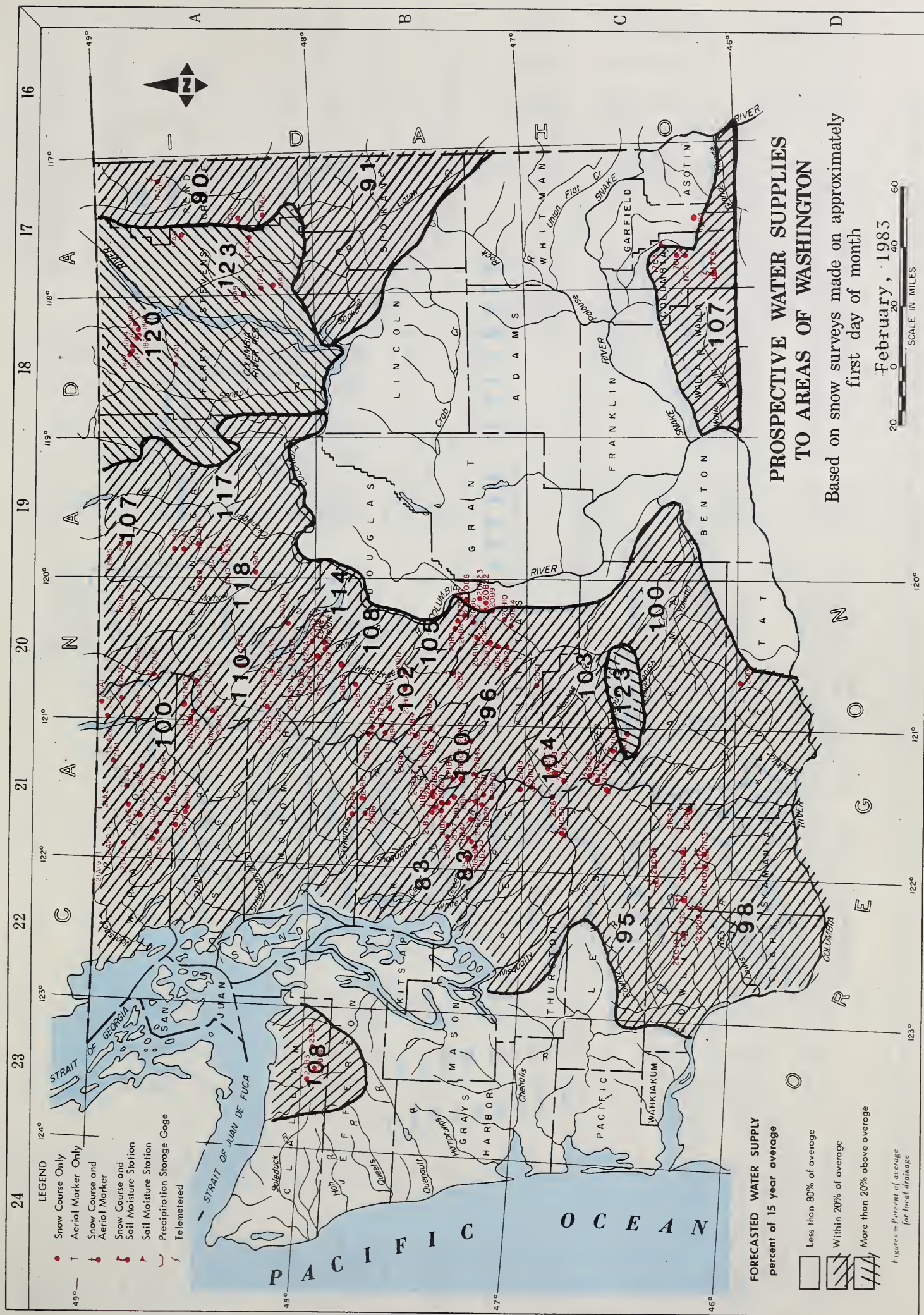
ROBERT T. DAVIS, Snow Survey Supervisor

NORINE P. KENT, Statistical Assistant

SOIL CONSERVATION SERVICE
360 U.S. COURTHOUSE
SPOKANE, WASHINGTON 99201

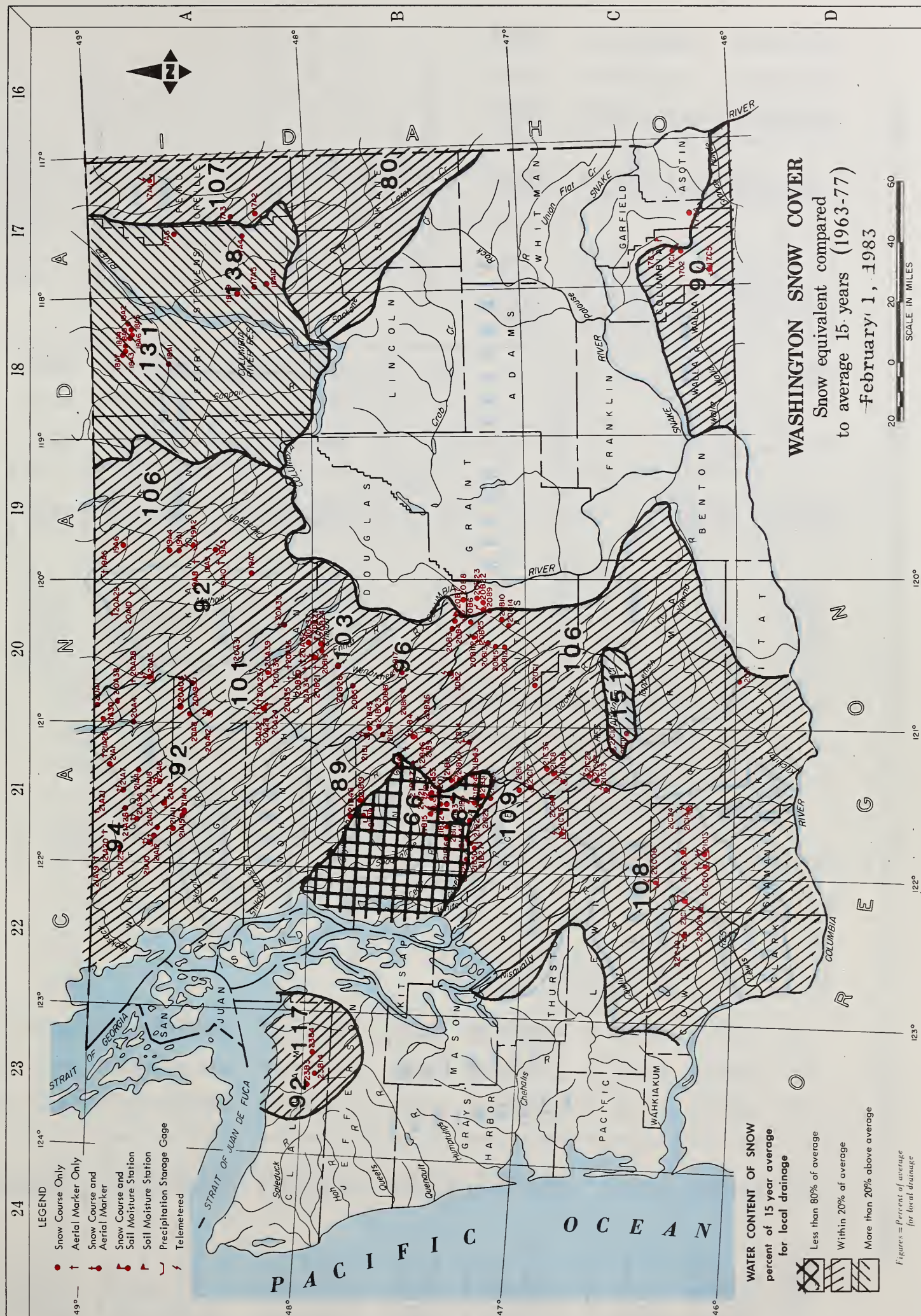
THE UNIVERSITY OF CHICAGO

PHILOSOPHY



INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

NAME	NUMBER	SEC.	IMP.	RANGE	ELEV.
UPPER COLUMBIA DRAINAGE					
Pend Oreille River					
Boyer Mountain	17A2	7	31N	431	5250
Bunchgrass Meadow	1A1SP	24	37N	441	5000
Wine-berry Creek	17A3	30	33N	431	2970
Kettle River					
Boulder Road	18A2	36	39N	361	1450
Butte Creek	18A3	28	39N	351	4070
Culbin Creek	18A8	5	38N	3170	3170
Cox Creek	18A4	26	39N	351	2595
Snow Caps Creek	18A5	3	38N	361	2150
Snow Caps Trail	18A6	5	38N	361	2720
Summit G. S.	18A7	20	39N	351	4600
Colville River					
Brind	17A6	19	36N	421	3215
Carlson	18A9	34	32N	381	2885
Chewelah	17A4	11	32N	411	4925
Shungo Mountain	17A5	26	31N	381	4990
Togo	18A10	6	29N	381	3370
Sanpoil River					
Sherman Creek Pass	18A11	19	36N	351	5350
Okanogan River					
Cluck	19A8a	2	36N	231	7000
Muckamuck	19A9a	20	36N	241	6750
Mutton Creek No. 1	19A1	30	37N	241	5700
Mutton Creek No. 2	19A1	19	37N	241	6000
Paysoylen	20A28a	32	40N	181	4300
Rusty Creek	19A3P	18	35N	241	4000
Salmon Meadows	19A2SP	33	37N	231	4750
Sturvation Mtn.	19A10a	15	35N	231	2845
Tout's Coulee	19A6	30	39N	251	2845
Methow River					
Billy Goat Pass	20A10a	10	38N	201	6400
Dallu Watch	20A29a	8	39N	201	7000
Harts Pass	20A5SP	7	37N	181	6500
Horseshoe Basin	19A5a	15	40N	231	7000
Loup Loop	19A7	36	34N	231	4650
Chelan Lake Basin					
Cloudy Pass	20A22a	12	31N	151	6500
Greenwood Flat	20A25a	3	31N	161	3540
Little Meadows	20A24a	8	31N	161	5275
Lynan Lake	20A23SP	18	31N	161	5900
Park Creek Flat	20A13a	19	34N	161	2220
Park Creek Ridge	20A12SP	18	34N	161	4600
Petersons	20A16a	3	34N	171	3730
Rainy Pass	20A9SP	21	35N	171	4780
Safety Harbor	20A30a	32	31N	201	6300
War Creek Pass	20A31a	34	33N	181	6500
Mirror Lake	20A39	30	31N	181	5600
Entiat River					
Blue Creek G. S.	20B28a	19	28N	181	5425
Brief	20B19	34	28N	191	1600
Entiat Meadows	20A33a	28	31N	171	4540
Entiat River Trail	20A34a	2	29N	171	3325
Four Mile Ridge	20B27a	15	28N	191	6800
Fox Camp	20A36a	17	30N	181	6510
Pope Ridge	20B20	22	29N	181	3540
Pope Ridge Snow Pillow	20B24SP	22	29N	181	3540
Pugh Ridge	20A32a	34	30N	181	6725
Shady Pass	20A37	20	29N	191	6200
Snow Brushy	20A35a	21	30N	191	3910
Tommy Creek	20B21a	10	28N	171	4900
Wenatchee River					
Berne-Mill Creek	21B23	7	26N	151	3170
Berne-Mill Creek (New)	21B41SP	13	26N	141	3240
Blewett Pass No. 2	20B2SP	35	25N	171	4270
Chiwaukum G. S.	20B16	4	25N	171	1810
Lake Wenatchee	20B5	33	27N	171	1970
Leavenworth R. S.	20B17	1	24N	171	1127
Merritt	20B18	4	26N	161	2140
Stevens Pass	21B1SP	14	26N	131	4070
Stevens Pass Sand Shed	21B45	12	26N	191	3700
Trough 2	20B25SP	10	20N	201	5310
LOWER COLUMBIA DRAINAGE					
Asotin Creek					
Spruce Springs	17C4	9	8N	401	5700
Touchet River					
Course	17C2m	2	9N	401	3370
Honestead	17C1m	11	9N	401	4030
Martin Springs (Helmers SM)	17C2M	23	9N	401	4400
Touchet No. 2	17C5SP	6	7N	401	5530
Klickitat River					
Satus Pass	20D1	21	6N	171	4030
Lewis River					
Lone Pine Shelter	21C26SP	8	9N	71	3800
Marble Mountain	22C09SP	26	8N	51	3200
Plains of Abraham	22C1SP	35	9N	51	4400
Spencer Meadow	21C20SP	16	8N	71	3400
Surprise Lakes	21C13SP	14	7N	81	4250
Cowlitz River					
Coyote Pass	21C6	15	16N	101	5300
Bratton Hill	21C33SP	11	13N	111	5900
Padito Hill	21C14SP	36	10N	101	4500
Ryan Lake	22C08SP	9	10N	61	3280
Sheep Canyon	22C10SP	12	8N	41	4970
Skagit River					
Beaver Creek Trail	21A4	35	39N	121	2200
Beaver Pass	21A1	9	39N	121	3680
Brown Top	21A28a	26	40N	121	6000
Devils Park	20A4	34	38N	161	5900
Freezout Creek Trail	20A1	14	40N	141	3500
Freezout Meadows (New)	20A38	8	40N	161	3500
Granite Creek	21A29	25	36N	161	3500
Meadows Cabins	20A8	29	36N	141	1900
New Hazameen Lake	20A7	19	40N	141	2800
Thunder Basin	21A30	10	35N	141	4200
Baker River					
Duck Butte	21A11a	8	36N	81	3800
Easy Pass	21A7a	19	39N	111	5200
Jasper Pass	21A6a	17	38N	111	5400
Marten Lake	21A9a	23	38N	81	3600
Mount Blum	21A18a	27	38N	101	5800
Rocky Creek	21A12aP	20	37N	81	2100
Schreibers Meadow	21A10a1	18	37N	81	3400
S. F. Thunder Creek	21A14a	20	36N	91	2200
Sulphur Creek	21A13	22	37N	81	1600
Three Mile Creek	21A15	18	36N	91	1600
Watson Lakes	21A8P	25	37N	91	4500
Nooksack River					
Bald Mountain	21A19a	7	40N	71	4400
Canyon	21A20a	20	40N	81	5100
Glacier Creek	21A23	9-10	38N	71	3700
Panorama New	21A26	17	39N	91	4300
Twin Lakes	21A21a	16	40N	91	5200
OLYMPIC PENINSULA					
Dungeness River					
Deer Park	23B4	1	28N	5W	5200
Morse Creek					
Cox Valley	23B14	31	29N	6W	4500
Elwha River					
Hurricane	23B3	36	29N	7W	4500
LEGEND					
21A7	Snow Course Only				
21A7a	Aerial Marker Only				
21A7b	Snow Course And Aerial Marker				
21A7m	Snow Course And Soil Moisture Station				
21A7n	Soil Moisture Station				
21A7p	Snow Course And Precipitation Storage Gage				
21A7q	Precipitation Storage Gage				
21A7SP	Snow P-illow				



INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.							
UPPER COLUMBIA DRAINAGE																								
Boyer Mountain Bunchgrass Meadow Winchester Creek	Pend Oreille River																							
	17A2	7	31N	43E	5250	Colockum Creek																		
	17A1SP	24	37N	44E	5000	Colockum Creek Upper	20822	11	20N	20E	5300	Lewis River												
	17A3	30	33N	43E	2970	Colockum Creek Lower	20823	1	20N	20E	4300	22C09SP	26	8N	5E	3200	Skagit River							
	Kettle River																							
Boulder Road Butte Creek Cabin Creek Goat Creek Snow Caps Creek Snow Caps Trail Summit G. S.	18A2	36	39N	36E	1450	Beehive Springs	2083	12	21N	19E	4400	22C20SP	35	9N	7E	3800	21A4	35	39N	12E	2200			
	18A3	28	39N	35E	4070	Scout-A-Vista	2084	18	21N	20E	3400	21C13P	14	7N	8E	4250	21A1	26	40N	12E	3680			
	18A8	5	38N	36E	3170	Stemilt Creek					21C14SP	10N	11E	5900	20A4	14	40N	14E	3500	20A1	14	40N	14E	3500
	18A4	26	39N	35E	3595	Jump-Off	2088	34	21N	20E	4450	21C33SP	15	16N	10E	5300	20A38	8	40N	16E	5500			
	18A5	3	38N	36E	2150	Stemilt Slide	2087SP	30	21N	20E	4400	22C10SP	11	13N	11E	5900	20A06	25	36N	16E	3500			
Chaweloh Stranger Mountain Togo	18A6	5	38N	36E	2720	Upper Wheeler	2087SP	30	21N	20E	4400	22C10SP	12	8N	4E	4050	21A30	19	40N	14E	2800			
	18A7	20	39N	35E	4600	Yakima River					21C6	15	16N	10E	5300	20A07	10	35N	14E	4200				
	Colville River																							
	17A6	19	36N	42E	3215	Ahtanum R. S.	21C11	24	12N	14E	3100	21C6	15	16N	10E	5300	Baker River							
	18A9	34	32N	38E	2885	Big Boulder Creek	21B9SP	35	23N	14E	3200	21C14SP	36	10N	10E	4500	21A11A	8	36N	8E	3800			
Sherman Creek Pass	17A4	11	32N	41E	4925	Bumping Lake	21C36	13	16N	12E	3400	22C08SP	9	10N	6E	3280	21A7A	19	39N	11E	5200			
	17A5	26	31N	38E	4990	Bumping Lake New	21C38SP	9	15N	12E	4600	22C08SP	9	10N	6E	3280	21A6A	17	38N	11E	5400			
	18A10	6	29N	38E	3370	Colockum Pass	20810	17	19N	20E	5370	22C08SP	9	10N	6E	3280	21A9A	23	38N	8E	3600			
	Sanpoil River																							
	18A1	19	36N	35E	5350	Cooke Creek	20810	17	19N	20E	5370	22C08SP	9	10N	6E	3280	21A18a	27	38N	10E	5800			
Clark Muckamuck Mutton Creek No. 1 Mutton Creek No. 2 Paydayten Rusty Creek Salmon Meadows Starvation Mtn. Touts Coulee	19A8a	2	36N	29E	7000	Fish Lake	21B4SP	28	24N	14E	3371	22C08SP	9	10N	6E	3280	21A12AP	20	37N	8E	2100			
	19A9a	20	36N	24E	6750	Green Lake	21C10SP	3	12N	13E	6000	22C08SP	9	10N	6E	3280	21A10AP	18	37N	8E	2100			
	19A1	30	37N	24E	5700	Grouse Camp	20811SP	29	21N	19E	5385	22C08SP	9	10N	6E	3280	21A14A	20	36N	9E	2200			
	20A28a	32	40N	18E	4300	High Creek	20812	34	20N	19E	2930	22C08SP	9	10N	6E	3280	21A13	22	37N	8E	1600			
	19A3P	18	35N	24E	4500	Joe Lake	21B46a	22	23N	12E	4624	22C08SP	9	10N	6E	3280	21A15	18	36N	9E	1600			
Billy Goat Pass Dollar Watch Harts Pass Horseshoe Basin Loup Loup	19A10a	15	35N	23E	6750	Lake Cle Elum	21B47a	7	23N	13E	3327	22C08SP	9	10N	6E	3280	21A15	18	36N	9E	1600			
	19A6	30	39N	25E	2845	Lemah Creek	20C1	24	17N	16E	3935	22C08SP	9	10N	6E	3280	21A8P	25	37N	9E	4500			
	Methow River																							
	20A10a	10	38N	20E	6400	Marse Lake	21C17SP	6	16N	11E	5400	22C08SP	9	10N	6E	3280	Nooksack River							
	20A29a	8	39N	20E	7000	Nanum	20B13	4	20N	19E	3875	22C08SP	9	10N	6E	3280	21A19a	7	40N	7E	4400			
Cloudy Pass Greenwood Flat Little Meadows Lyman Lake Park Creek Ridge Rainy Pass Safety Harbor War Creek Pass Mirror Lake	20A35P	7	37N	18E	4500	Trail Creek	20B14	20	19N	20E	3360	22C08SP	9	10N	6E	3280	21A20a	20	40N	8E	5100			
	19A7a	36	34N	23E	4650	Tunnel Avenue	21B8P	13	21N	11E	2450	22C08SP	9	10N	6E	3280	21A23	9-10	38N	7E	3700			
	Chelan Lake Basin																							
	20A22a	12	31N	15E	6500	Van Epps Pass	20826a	16	23N	15E	5925	22C08SP	9	10N	6E	3280	21A26	17	39N	9E	4300			
	20A25a	3	31N	16E	5275	Walters Flat	20B15	22	20N	19E	3360	22C08SP	9	10N	6E	3280	21A21a	16	40N	9E	5200			
Blue Creek G.S. Brief Entiat Meadows Entiat River Trail Four Mile Ridge Fox Camp Pope Ridge Pope Ridge Snow Pillow Pugh Ridge Shady Pass Snow Brushy Tommy Creek	20A24a	8	31N	16E	5275	White Pass (East Side)	21B49a	12	23N	13E	3024	22C08SP	9	10N	6E	3280	Dungeness River							
	20A23SP	18	31N	16E	5900	LOWER COLUMBIA DRAINAGE																		
	20A12SP	18	34N	16E	4600	Asotin Creek					21B24P	18	20N	11E	1800	Morse Creek								
	20A9SP	21	35N	17E	4780	Spruce Springs	17C4	9	8N	40E	5700	21B25	27	21N	8E	1200	2384	1	28N	5W	5200			
	20A30a	32	31N	20E	6300	Touchet River					21B27	31	22N	10E	2500	Cox Valley								
Bernie-Mill Creek Bernie-Mill Creek (New) Blewett Pass No. 2 Chiwaukum G. S. Lake Wenatchee Leavenworth R. S. Merritt Stevens Pass Stevens Pass Sand Shed Trough #2	20A31a	34	33N	18E	6500	Touchet River					21B28	31	22N	10E	2500	23814	31	29N	6W	4500				
	20A39	30	31N	18E	5600	Touchet River					21B29	31	22N	10E	2500	Elwha River								
	Entiat River																							
	20B28a	19	28N	18E	5425	Asotin Creek					21B30	31	22N	10E	2500	2383	36	29N	7W	4500				
	20B19	34	28N	19E	1600	Asotin Creek					21B31	5	19N	11E	4700	Hurricane								
Wenatchee River	20A33a	28	31N	17E	4540	Asotin Creek					21B32	5	19N	11E	4700	Dungeness River								
	20A34a	2	29N	17E	3325	Asotin Creek					21B33	10	21N	10E	2390	Cox Valley								
	20B27a	15	28N	19E	6800	Asotin Creek					21B34	30	22N	10E	3300	23814	31	29N	6W	4500				
	20A36a	17	30N	18E	6510	Asotin Creek					21B35	30	22N	10E	3300	Elwha River								
	20B20	22	29N	18E	3540	Asotin Creek					21B36	30	22N	10E	3300	2383	36	29N	7W	4500				
Bernie-Mill Creek Bernie-Mill Creek (New) Blewett Pass No. 2 Chiwaukum G. S. Lake Wenatchee Leavenworth R. S. Merritt Stevens Pass Stevens Pass Sand Shed Trough #2	20B24SP	22	29N	18E	3540	Asotin Creek					21B37	11	21N	9E	2400	Hurricane								
	20A32a	34	30N	18E	6725	Asotin Creek					21B38	30	22N	10E	3300	Dungeness River								
	20A37	20	29N	19E	6200	Asotin Creek					21B39	30	22N	10E	3300	Cox Valley								
	20A35a	21	30N	17E	3910	Asotin Creek					21B40	30	22N	10E	3300	2383	36	29N	7W	4500				
	20B21a	10	28N	18E	4900	Asotin Creek					21B41	30	22N	10E	3300	Hurricane								
Bernie-Mill Creek Bernie-Mill Creek (New) Blewett Pass No. 2 Chiwaukum G. S. Lake Wenatchee Leavenworth R. S. Merritt Stevens Pass Stevens Pass Sand Shed Trough #2	21B23	7	26N	15E	3170	Asotin Creek					21B42	30	22N	10E	3300	Hurricane								
	21B41SP	13	26N	14E	3240	Asotin Creek					21B43	30	22N	10E	3300	Dungeness River								
	20B22SP	35	26N	17E	4270	Asotin Creek					21B44	30	22N	10E	3300	Cox Valley								
	20B16	4	25N	17E	1810	Asotin Creek					21B45	30	22N	10E	3300	2383	36	29N	7W	4500				
	20B5	33	27N	17E	1970	Asotin Creek					21B46	30	22N	10E	3300	Hurricane								
Bernie-Mill Creek Bernie-Mill Creek (New) Blewett Pass No. 2 Chiwaukum G. S. Lake Wenatchee Leavenworth R. S. Merritt Stevens Pass Stevens Pass Sand Shed Trough #2	20B17	1	24N	17E	1127	Asotin Creek					21B47	30	22N	10E	3300	Hurricane								
	20B18	4	26N	16E	2140	Asotin Creek					21B48	30	22N	10E	3300	Dungeness River								
	21B15P	14	26N	13E	4070	Asotin Creek					21B49	30	22N	10E	3300	Cox Valley								
	21B45	12	26N	19E	3700	Asotin Creek					21B50	30	22N	10E	3300	2383	36	29N	7W	4500				
	20B25SP	10	20N	20E	5310	Asotin Creek					21B51	30	22N	10E	3300	Hurricane								

WATER SUPPLY OUTLOOK

State of Washington

February 1, 1983

Near normal water supplies are forecast for most Washington water users this coming spring and summer. The mountain snowpack ranges from slightly below average to above average with a few exceptions. It is below average on the Spokane River and much below normal on the Green and Snoqualmie Rivers. Precipitation has been near normal to slightly above during the November-January period. Reservoir storage is very good for February 1.

SNOW COVER

The snowpack in Eastern Washington is average to above average on most watersheds. It is about 95-100% of normal on the Chelan and Wenatchee Rivers and is 90% in the Blue Mountains of Southeast Washington. The Spokane River snowpack is 80% of average. Western Washington snowpack is near average in the Olympics and on the Cowlitz, Baker, and Skagit Rivers. The Snoqualmie and Green Rivers have a snowcover about two thirds the usual amount. This is due to the warm temperatures in December and January which caused rain and melting at the higher elevation and subsequent early runoff.

PRECIPITATION

Precipitation during the November-January winter period has been close to average over most of the state. The northeastern counties have received precipitation amounts near 120% to 130% of average. Precipitation on the Columbia in Canada has been 80% of average. January precipitation was near average west of the Cascades. It was 115% to 150% east of the Cascades except for Southeast Washington where it was 80% of normal.

RESERVOIR STORAGE

Stored water supplies are generally very good for February 1. Most reservoirs are storing near average to above average amounts for this time of year. The Yakima Irrigation reservoirs are storing 715,800 acre-feet of water compared to the February 1 average of 656,500 acre-feet, or 109%. Lake Chelan is 100% of normal and Banks reservoir is currently 114% of average.

STREAMFLOW

River flows during January were generally above average due to warm temperatures and near average precipitation. Forecasts of prospective spring and summer streamflow are within 20% of average over most of the state. Exceptions are the Colville River and the Kettle Rivers which are forecast to flow at 123% and 120%, respectively.

STREAMFLOW FORECASTS - FEBRUARY, 1983

The following summarized runoff forecasts are based principally on mountain snow-cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. These forecasts are made as a product of the cooperative efforts of the Soil Conservation Service and the National Weather Service. Streamflow figures for 1982 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1983	Seasonal Streamflow in Thousands of Acre-Feet				
		% 15-Yr. Avg.	Fore- cast period	1982	1981	15-Yr. Average 63-77
<u>COLUMBIA BASIN</u>						
<u>COLUMBIA RIVER SYSTEM</u>						
Columbia River	43900	96	Apr-Sept	48531	40810	45510
at Birchbank <u>1/</u>	35100	97	Apr-July	38501	34081	36358
	25411	97	Apr-June	27002	27618	26197
Columbia River	66000	97	Apr-Sept	70303	61016	68026
at Grand Coulee <u>1/</u>	55300	97	Apr-July	58525	52320	57050
	42952	97	Apr-June	44235	43871	44280
Columbia River	73500	99	Apr-Sept	77308	66512	73911
bl. Rock Island Dam <u>1/</u>	62100	99	Apr-July	64689	57767	62444
	47994	99	Apr-June	49348	48667	48479
Columbia River	101000	98	Apr-Sept	96188	91737	103477
at The Dalles, OR <u>1/</u>	86000	97	Apr-July	81125	79919	88503
	69082	97	Apr-June	63521	68304	71219
<u>PEND OREILLE RIVER SYSTEM</u>						
Pend Oreille River	14100	90	Apr-Sept	13896	13271	15643
bl. Box Canyon	12900	90	Apr-July	13179	12116	14334
	11049	90	Apr-June	11594	10776	12277
<u>KETTLE RIVER SYSTEM</u>						
Kettle River	2210	120	Apr-Sept	2184	1835	1845
nr. Laurier	2117	121	Apr-July	2013	1747	1753
	1939	122	Apr-June	1657	1603	1587
Colville River	165	123	Apr-Sept	125	116	134
at Kettle Falls	154	125	Apr-July	111	105	125
	146	127	Apr-June	94	97	115

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

Basin, Stream and Station	Forecast Runoff 1983	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-yr. Avg.	Fore cast period	1982	1981	1980	15-yr. Average 63-77
<u>SPOKANE RIVER SYSTEM</u> **							
Spokane River	2650	91	Apr-Sept		2238	2214	2910
at Post Falls, ID <u>2/</u>	2550	91	Apr-July		2145	2046	2733
	2392	92	Apr-June		1960	1904	2600
<u>OKANOGAN RIVER SYSTEM</u>							
Similkameen River	1630	107	Apr-Sept		1241	1479	1517
nr. Nighthawk	1520	107	Apr-July		1118	1391	1417
	1275	107	Apr-June		930	1247	1192
Okanogan River	2012	117	Apr-Sept		1631	1551	1718
nr. Tonasket	1806	116	Apr-July		1416	1423	1564
	1564	120	Apr-June		1107	1240	1304
<u>METHOW RIVER SYSTEM</u>							
Methow River	1190	118	Apr-Sept		786	996	1011
nr. Pateros	1100	117	Apr-July		724	934	937
	925	117	Apr-June		602	811	791
<u>CHELAN RIVER SYSTEM</u>							
Chelan River	1407	114	Apr-Sept		916	1120	1238
at Chelan <u>3/</u>	1231	114	Apr-July		798	1020	1080
	950	114	Apr-June		621	859	834
Stehekin River	973	110	Apr-Sept		662		883
at Stehekin	851	114	Apr-July		543		744
	634	114	Apr-June		403		557
Entiat River	261	108	Apr-Sept		186	216	241
nr. Ardenvoir	239	110	Apr-July		168	200	218
	191	110	Apr-June		137	172	174
<u>WENATCHEE RIVER SYSTEM</u>							
Wenatchee River	1361	105	Apr-Sept				1297
at Plain	1213	105	Apr-July				1156
	948	105	Apr-June				903
Wenatchee River	1720	97	Apr-Sept		1188	1516	1767
at Peshastin	1540	97	Apr-July		1075	1399	1586
	1212	97	Apr-June		869	1208	1250
Stemilt Basin	136*	95	May-Sept				138*
nr. Wenatchee							
Icicle Creek	379	102	Apr-Sept				371
nr. Leavenworth	359	105	Apr-July				342
	302	108	Apr-June				279

* Thousands of Miners' Inches.

** Forecasts made by Jerry Beard, Soil Conservation Service, Boise, Idaho.

2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.

Basin, Stream and Station	Forecast Runoff 1983	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-yr. Avg.	Fore cast period	1982	1981	1980	15-yr. Average 63-77
YAKIMA RIVER SYSTEM							
Yakima River	142	99	Apr-Sept		95	115	144
nr. Martin <u>4/</u>	129	97	Apr-July		82	103	133
	113	99	Apr-June		73	95	114
Yakima River	938	96	Apr-Sept		700	792	975
at Cle Elum <u>5/</u>	880	100	Apr-July		643	716	882
	763	102	Apr-June		563	646	750
Yakima River	2168	100	Apr-Sept		1194	1833	2168
nr. Parker <u>6/</u>	1993	102	Apr-July		1059	1733	1954
	1727	102	Apr-June		961	1610	1693
Kachess River	126	100	Apr-Sept		81	111	126
nr. Easton <u>7/</u>	116	98	Apr-July		72	105	119
	104	101	Apr-June		66	91	103
Cle Elum River	482	101	Apr-Sept		313	-	479
nr. Roslyn <u>8/</u>	441	101	Apr-July		282	350	435
	373	104	Apr-June		244	314	358
Bumping River	152	104	Apr-Sept		78	129	146
nr. Nile <u>9/</u>	149	109	Apr-July		70	120	132
	115	108	Apr-June		63	111	106
American River	136	107	Apr-Sept	140	63	121	127
nr. Nile	125	107	Apr-July	130	58	105	116
	102	108	Apr-June	109	51	114	95
Tieton River	277	110	Apr-Sept		148	224	252
at Tieton Dam <u>10/</u>	232	110	Apr-July		131	192	212
	186	111	Apr-June		108	166	168
Naches River	920	103	Apr-Sept		419	729	893
nr. Naches <u>11/</u>	880	109	Apr-July		380	694	806
	739	109	Apr-June		339	638	678
Ahtanum Creek	58	123	Apr-Sept				47
nr. Tampico <u>12/</u>	52	125	Apr-July				42
	47	128	Apr-June				37

4/ Observed flow corrected for storage in Lake Keechelus.

5/ Observed flow corrected for storage in Keechelus, Kachess, and Cle Elum Lakes and diversion by Kittitas Canal.

6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping, and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation, and Sunnyside Canals.

7/ Observed flow corrected for storage in Lake Kachess.

8/ Observed flow corrected for storage in Lake Cle Elum.

9/ Observed flow corrected for storage in Bumping Lake.

10/ Observed flow corrected for storage in Rimrock Lake.

11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals, and City of Yakima.

12/ Observed flow of North and South Forks (Combined).

Basin, Stream and Station	Forecast Runoff 1983	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-yr.	Fore cast	1982	1981	1980	15-yr. Average 63-77
<u>LOWER COLUMBIA RIVER SYSTEM</u>							
Mill Creek	18.7	107	Apr-Sept	24.62		11.65	17.50
at Walla Walla	18.6	107	Apr-July	24.48		11.64	17.33
	18.4	107	Apr-June	21.63		11.64	17.15
Lewis River	1272	98	Apr-Sept		1096	1001	1298
at Ariel <u>13/</u>	1105	98	Apr-July		971	883	1128
	972	98	Apr-June		865	798	992
Cowlitz River	2020	95	Apr-Sept			1626	2126
bl. Mayfield Dam	1760	95	Apr-July			1432	1854
	1475	95	Apr-June			1275	1553
Cowlitz River	2740	99	Apr-Sept		2390	1976	2766
at Castle Rock	2380	90	Apr-July		2125	1852	2401
	1867	92	Apr-June		1875	1649	2029
<u>OLYMPIC PENINSULA</u>							
<u>DUNGENESS RIVER SYSTEM</u>							
Dungeness River	172	108	Apr-Sept				160
nr. Sequim	146	113	Apr-July				130
	108	113	Apr-June				96
<u>ELWHA RIVER SYSTEM</u>							
Elwha River	553	100	Apr-Sept				553
nr. Port Angeles	454	100	Apr-July				454
<u>PUGET SOUND</u>							
<u>SKAGIT RIVER SYSTEM</u>							
Skagit River	2540	100	Feb-Aug				2532
at Newhalem <u>15/</u>	2172	92	Apr-Sept				2356
	1963	100	Apr-July				1972
	1530	103	Apr-June				1485
<u>GREEN RIVER SYSTEM</u>							
Green River	262	83	Apr-Sept				316
bl. Howard Hanson Dam <u>16/</u>	238	84	Apr-July				284
	216	84	Apr-June				256
<u>CEDAR RIVER SYSTEM</u>							
Cedar River	77	83	Apr-Sept				93
nr. Cedar Falls							

13/ Observed flow corrected for storage in Lake Merwin, Yale, and Swift Reservoirs.

14/ Observed flow corrected for storage in Mayfield Reservoir.

15/ Observed flow corrected for storage in Diablo, Ross, and Gorge Reservoirs.

16/ Observed flow corrected for storage in Howard Hanson Dam.

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about February 1, 1983 as percent of the same date in 1982 and 1981 and average of record.

Tributary Basin	No. of Courses Average	1983 Snow Water Expressed as percent of		
		1982	1981	1963-77 Avg.
<u>UPPER COLUMBIA BASIN</u>				
Pend Oreille	9	105	214	107
Kettle	8	116	242	131
Colville	1	121	245	138
Spokane	5	83	1033	80
Okanogan	20	101	286	106
Methow	1	104	166	92
Chelan	5	87	210	101
Entiat	11	109	197	103
Wenatchee	9	86	609	96
Yakima	14	101	569	106
Ahtanum	2	143	494	151
<u>LOWER COLUMBIA BASIN</u>				
Mill Creek	1	69	272	90
Cowlitz	2	101	530	108
<u>PUGET SOUND</u>				
White	1	119	409	109
Green	6	53	342	62
Snoqualmie	1	54	719	66
Skykomish	2	83	666	89
Skagit	15	98	1358	92
Baker	8	-	581	94
<u>OLYMPIC PENINSULA</u>				
Morse	1	93	1313	104
Elwha	1	99	2157	92
Dungeness	1	96	2225	117

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR STREAM	RESERVOIR	USABLE 1/ CAPACITY	1983	Measured (February)		
				1982	1982	Normal*
<u>COLUMBIA</u>						
Spokane	Coeur d'Alene Lake	225.1	168.5	72.2	180.0	145.3
Columbia	Franklin D. Roosevelt Lake	5232.0	5177.2	4961.6	4726.9	3698.2
Columbia	Banks Lake	714.9	709.6	704.2	120.8	619.4
Okanogan	Conconully Reservoir	13.0	11.5	9.1	6.8	6.2
Okanogan	Conconully Lake	10.5	10.4	8.9	10.4	7.6
Chelan	Lake Chelan	676.1	295.1	319.9	481.3	294.2
<u>YAKIMA</u>						
Yakima	Keechelus Lake	157.8	87.3	82.1	113.8	97.6
Kachess	Kachess Lake	239.0	199.8	148.0	179.2	173.4
Cle Elum	Lake Cle Elum	436.9	284.7	57.6	220.9	259.7
Bumping	Bumping Lake	33.7	6.2	4.0	17.0	7.8
Tieton	Rimrock Lake	198.0	137.8	116.1	170.5	118.0
<u>PUGET SOUND</u>						
Skagit	Ross Reservoir	1404.1	1045.1	942.9	1293.9	1012.6
Skagit	Diablo Reservoir	90.6	83.5	84.0	87.6	84.2
Skagit	Gorge Reservoir	9.8	8.0	7.9	7.9	7.9

^{1/} Based on Active Storage

* 15-yr. Average 1963-1977

PRECIPITATION 1/

Division Average Observations and Departures

Drainage Divisions	FALL		WINTER	
	Sept-Oct Observed	1982 <u>2/</u> Departure	Nov. 1982 - Observed	Jan. 1983 <u>2/</u> Departure
Columbia in Canada	5.40	+0.38	8.79	-2.34
Pend Oreille - Spokane	4.85	+0.81	11.91	-0.27
Northeastern Washington	2.73	+0.25	8.67	+1.96
Southeastern Washington	4.19	+1.68	6.26	-0.80
East Slope Cascades	6.27	+1.52	22.49	+2.46
North Central Washington	2.35	+0.76	5.65	+0.81
Northwest Slope Cascades	12.32	-0.89	35.42	-2.51
Southwest Slope Cascades	10.16	+1.48	29.12	+0.21
Northeastern Washington		- Lower Spokane, Colville, Sanpoil, and Lower Kettle Drainages.		
Southeastern Washington		- Touchet, Tucannon, and Palouse Drainages.		
East Slope Cascades		- Yakima, Wenatchee and Chelan Drainages.		
North Central Washington		- Methow and Okanogan Drainages.		
Northwest Slope Cascades		- Puget Sound Drainages.		
Southwest Slope Cascades		- Lower Columbia Drainages.		

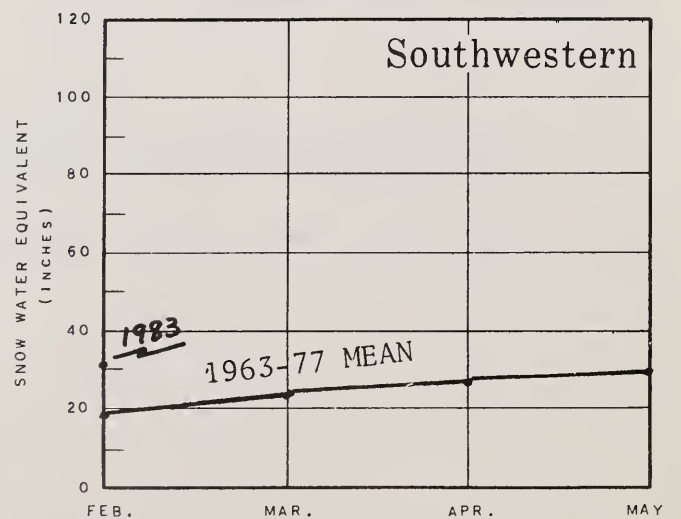
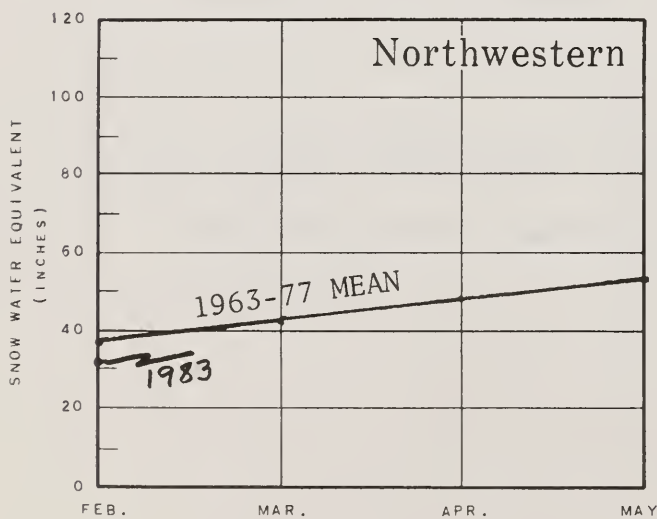
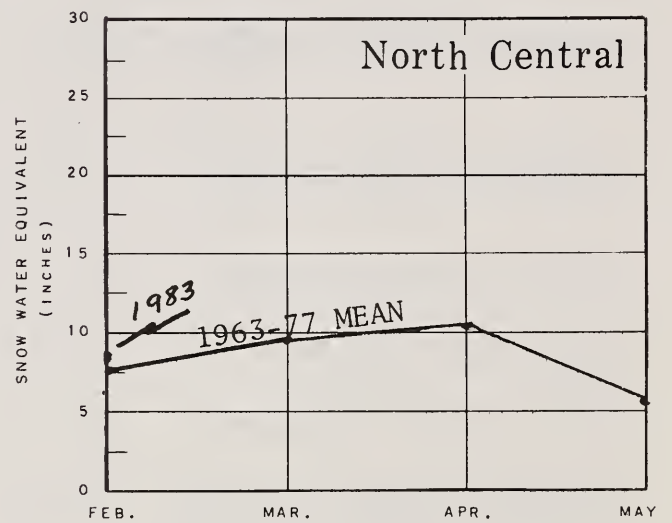
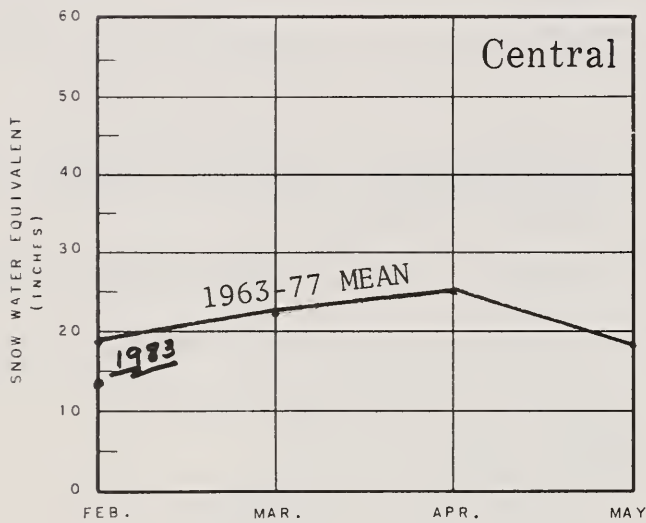
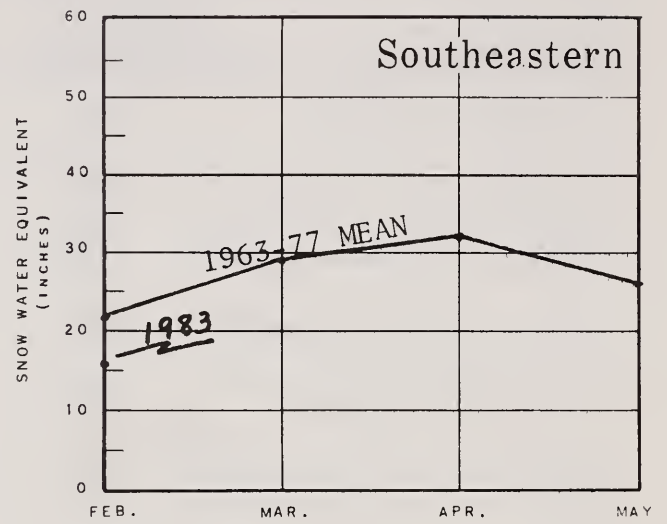
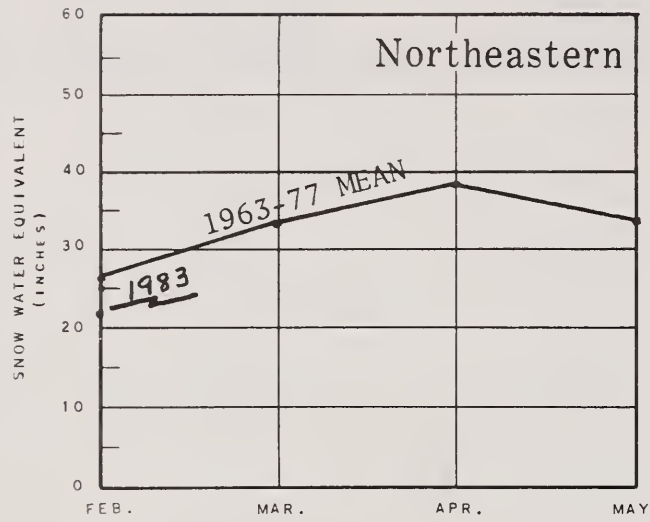
1/ - Preliminary analysis by National Weather Service from data furnished by Meteorological Services of Canada and the National Weather Service.

2/ - Departure from 15-year (1958-72) drainage division average.

WASHINGTON SNOW COVER

1983

DRAINAGE AREAS



Average
1983

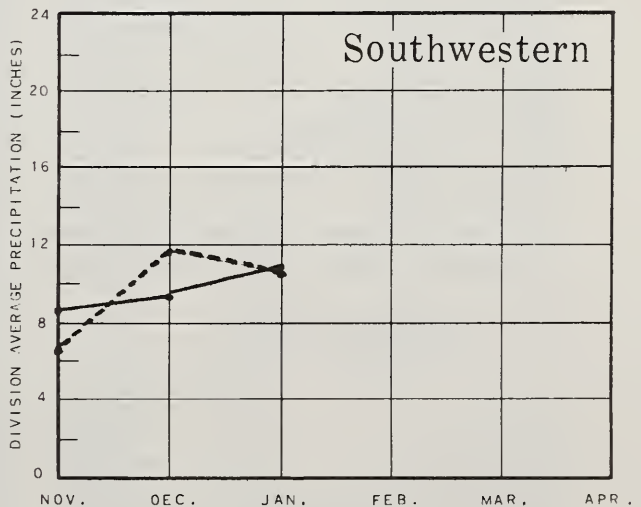
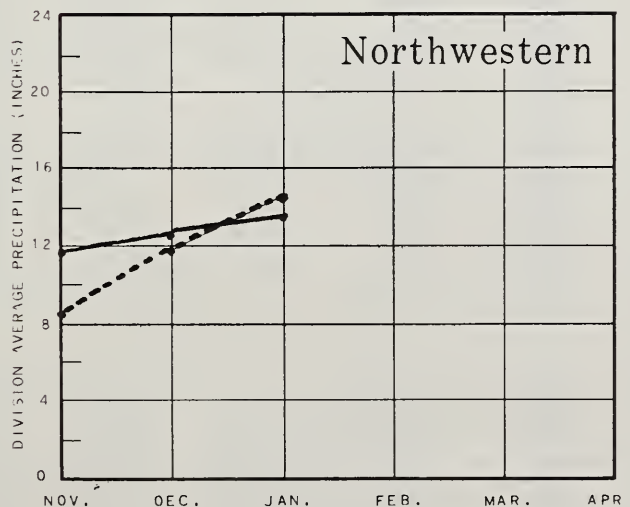
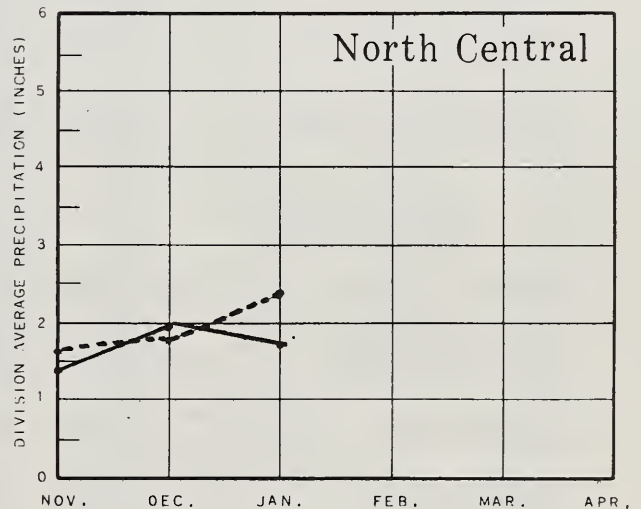
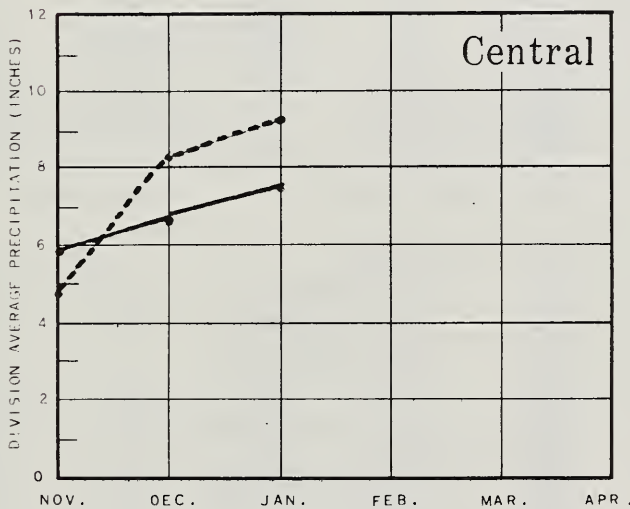
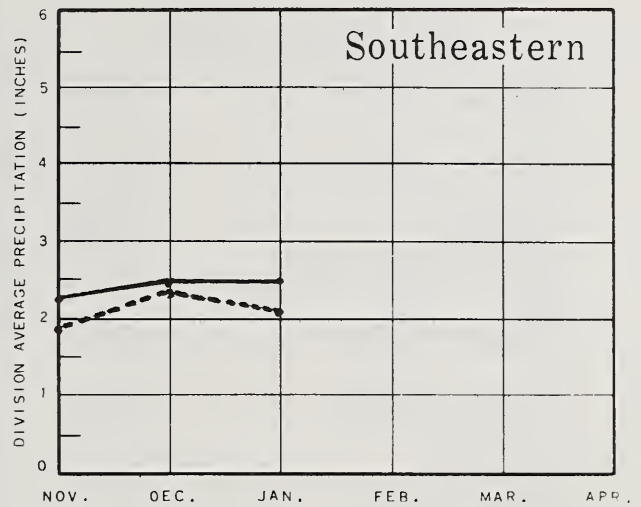
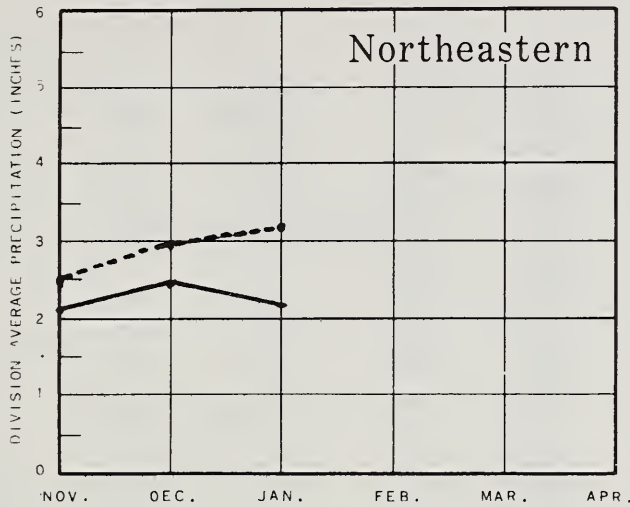
—————

Selected Snow Survey Courses by Soil Conservation Service

WASHINGTON VALLEY PRECIPITATION

1983

DRAINAGE AREAS



Average —
1983 - - -

Preliminary Analysis by National Weather Service

SNOW DATA TO FEBRUARY 1, 1983 - APPENDIX 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #

U P P E R C O L U M B I A D R A I N A G E

PEND OREILLE RIVER

Benton Meadow	16A02	2344	12/29	17	3.9	1.2	2.7
			1/28	16	4.9	5.9	5.2
Benton Spring	16A03	4900	12/29	40	10.4	5.9	7.5
			1/28	49	16.2	12.1	13.2
Chewelah	17A04	4925	2/1	Discontinued		10.0	11.5
Heart Lake Trail	14C10	4800	12/30	31	7.6	-	9.7
			1/28	39	12.5	16.3	12.8
Hoodoo Basin	15C10	6000	12/30	70	21.2	24.6	22.2
			1/28	89	33.7	37.2	36.3
Hoodoo Creek	15C01	5900	12/30	66	18.8	-	19.8
			1/28	84	31.2	33.0	32.5
Lookout	15B02	5250	12/30	60	16.8	12.2	13.8
			1/31	67	22.0	21.8	25.4
Nelson	2D04-Can	3050	12/30	37	7.4	4.2	7.2*
			1/31	51	14.0	12.7	11.0*
Schweitzer Bowl	16A06	4500	12/28	65	18.6	13.8	13.8
			2/1	77	28.0	21.8	23.1
Schweitzer Ridge	16A05	6100	12/28	79	26.3	18.0	21.3
			2/1	100	40.0	31.5	34.2

KETTLE RIVER

Barnes Creek	2B06-Can	5300	1/1	Not Measured		5.7	8.1*
			2/1	Late Report		15.3	13.4*
Big White Mtn.	2E03-Can	5500	1/1	Not Measured		-	4.4*
			1/30	57	16.0	14.5	13.5*
Butte Creek	18A03	4070	1/1	Not Measured		3.4	4.0
			1/29	30	8.1	7.0	6.9
Cabin Creek	18A08	3170	2/1	Discontinued		6.8	6.0
Carmi	2E02-Can	4100	1/30	28	6.5	5.5	5.0*
Farron # 1	2B02-Can	4000	1/28	45	13.6	11.4	9.4*
Farron # 2	2B02A-Can	4000	1/28	44	13.6	11.3	8.4*
Goat Creek	18A04	3595	2/1	Discontinued		6.2	5.4
Monashee Pass	2E01-Can	4500	2/1	Late Report		11.3	9.4*
Snow Caps Creek	18A05	2150	2/1	Discontinued		5.8	4.1
Snow Caps Trail	18A06	2720	2/1	Discontinued		5.0	4.8
Summit G.S.	18A07	4600	1/29	25	7.0	5.6	5.9
Trapping Creek Lower	2E05-Can	3050	1/29	24	5.4	4.7	4.2*
Trapping Creek Upper	2E04-Can	4450	1/29	34	9.0	8.5	7.1*

COLVILLE RIVER

Baird	17A06	3215	1/29	28	7.6	6.3	5.5
Carlson	18A09	2885	2/1	Discontinued		4.2	3.7
Chewelah	17A04	4925	2/1	Discontinued		10.0	11.5
Stranger Mountain	17A05	5990	2/1	Discontinued		7.9	10.0
Togo	18A10	3370	2/1	Discontinued		7.2	8.6

MSFB-X4-L FEB 77 AND DEC 78 11:11

*Average for years of Record

#Average based on 1963-1977 Average

SNOW DATA TO FEBRUARY 1, 1983 - APPENDIX 2

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #

SPOKANE RIVER

Above Burke	15B08	4100	12/29	35	7.8	5.2	9.3
			1/31	40	12.5	14.2	16.4
4th of July Summit	16B03	3100	12/30	23	4.3	-	3.3
			1/28	21	7.0	8.5	7.3
Lookout	15B02	5250	12/30	60	16.8	12.2	13.8
			1/31	67	22.0	21.8	25.4
Mosquito Ridge	16A04	5110	1/27	87	30.4	21.2	24.5
Sherwin	16C01	3200	12/29	20	4.4	5.2	5.5
			1/28	23	6.5	13.2	10.7
Sunset	15B09A	5600	1/26	63	21.8	23.5	27.4

NEWMAN LAKE

Ragged Ridge	17B02	3333	1/3	30	5.0	1.0	New
			2/1	Late Report		5.6	New

OKANOGAN RIVER

Aberdeen Lake	1F01A-Can	4300	1/31	26	6.0	6.3	5.0*
Blackwall Peak	2G03-Can	6250	12/29	43	11.7	10.8	15.1*
			2/1	69	22.9	25.4	24.0*
Brenda Mine	2F18-Can	4800	12/29	26	5.6	4.3	6.3*
			1/28	38	9.7	8.9	9.4*
Brookmere	1C01-Can	3200	12/31	19	3.1	4.4	3.7*
			1/31	22	5.3	8.1	7.0*
Enderby	1F04-Can	6250	12/29	67	19.8	17.8	18.1*
			1/27	85	28.1	32.5	25.0*
Esperon Creek Lower	2F15-Can	4400	2/1	Not Measured		-	7.8*
Esperon Creek Middle	2F14-Can	4700	2/1	Not Measured		-	10.2*
Esperon Creek Upper	2F13-Can	5400	2/1	Not Measured		-	10.6*
Grayback Reservoir	2F08-Can	5225	1/26	31	7.7	6.1	6.2*
Hamilton Hill	2G06-Can	4900	1/28	38	10.2	11.3	10.4*
Harts Pass	20A05A	6500	1/28	102	31.3	30.0	34.2
Horseshoe Basin	19A05a	7000	2/1	Discontinued		17.8	12.8
Isintok Lake	2F11-Can	6300	12/27	16	2.8	1.6	3.7*
			1/30	24	5.5	6.0	5.9*
Lost Horse Mountain	2G04-Can	6300	1/31	29	6.9	-	6.7*
Loup Loup	19A07	4650	2/1	Discontinued		8.1	7.4
McCulloch	2F03-Can	4200	1/1	20	4.5	1.6	3.1*
			1/31	26	5.9	3.6	4.9*
Missezula Mtn.	2G05-Can	5100	1/30	26	5.9	7.0	6.7*
Mission Creek	2F05-Can	6000	12/30	35	9.2	5.7	8.4*
			1/31	51	15.1	13.9	13.2*
Monashee Pass	2E01-Can	4500	2/1	Late Report		11.3	9.4*
Mount Kobau	2F12-Can	5950	12/28	28	6.3	7.5	3.9*
			1/30	43	10.9	11.1	8.7*
Muckamuck	19A09a	6390	2/1	Discontinued		16.7	11.4

*Average for years of record

#Average based on 1963-1977 Average

SNOW DATA TO FEBRUARY 1, 1983 - APPENDIX 3

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #

OKANOGAN RIVER (Cont.)

Mutton Creek No. 1	19A01	5700	2/1	Not Measured	14.2	10.8
Mutton Creek No. 2SP	19A11	6000	2/1	Not Measured	6.6	New
Nickel Plate	2G02-Can	6200	2/1	Not Measured	-	4.2*
Oyama Lake	2F19-Can	4400	1/31	25 7.1	6.0	5.1*
Paysayten	20A28	4300	2/1	Discontinued	14.6	14.5
Postill Lake	2F07-Can	4500	1/31	28 6.6	6.0	5.8*
Rusty Creek	19A03	4000	2/1	Not Measured	6.0	5.6
Salmon Meadows	19A02	4500	2/1	Not Measured	8.1	7.5
Silver Star Mountain	2F10-Can	6050	12/27	48 14.4	11.1	13.7*
			2/1	66 22.0	23.1	18.9*
Starvation Mountain	19A10	6750	2/1	Discontinued	17.8	13.8
Summerland Reservoir	2F02-Can	4200	12/30	20 4.3	2.6	4.6*
			1/29	30 7.5	7.2	7.4*
Sunday Summit	2G01A-Can	4300	1/29	19 3.9	7.5	5.1*
Touts Coulee	19A06	2845	2/1	Discontinued	3.0	3.1
Trout Creek	2F01-Can	4700	1/31	25 6.5	5.8	5.3*
Vaseux Creek	2F20-Can	4600	12/30	17 1.8	2.4	2.6*
			1/28	26 6.1	4.1	4.4*
White Rocks Mtn.	2F09-Can	6000	12/29	37 10.6	9.8	9.6*
			2/1	53 15.7	17.7	16.7*

METHOW RIVER

Billy Goat Pass	20A10	6409	2/1	Discontinued	-	24.2
Dollar Watch	20A29	7000	2/1	Discontinued	-	20.3
Harts Pass	20A05A	6500	1/28	102 31.3	30.0	34.2
Horseshoe Basin	19A05	7000	2/1	Discontinued	17.8	12.8
Loup Loup	19A07	4650	2/1	Discontinued	8.1	7.4
Mutton Creek No. 1	19A01	5700	2/1	Not Measured	14.2	10.8
Mutton Creek No. 2SP	19A11	6000	2/1	Not Measured	6.6	New
Rusty Creek	19A03	4000	2/1	Not Measured	6.0	5.6
Salmon Meadows	19A02	4500	2/1	Not Measured	8.1	7.5
War Creek Pass	20A31	6500	2/1	Discontinued	-	36.2

CHELAN LAKE BASIN

Cloudy Pass +	20A22	6500	2/1	Not Measured	-	30.0
Lyman Lake	20A23	5900	1/28	141 47.3	49.9	39.8
Little Meadows	20A23	5900	1/28	103 30.9	39.7	30.5
Mirror Lake	20A39	5600	1/28	84 26.8	35.0	New
Park Creek Ridge	20A12	4600	1/28	103 35.5	38.8	36.9
Rainy Pass	20A09	4780	1/28	90 27.4	29.8	30.9
Safety Harbor	20A30	6500	2/1	Discontinued	-	21.0
War Creek Pass	20A31	6500	2/1	Discontinued	-	36.2

*Average for years of record

#Average based on 1963-1977 Average

+Aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1983 - APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #

ENTIAT RIVER

Blue Creek G.S. +	20B28	5425	2/3	108	35.6	21.8	34.3
Brief	20B19	1600	1/27	30	7.4	7.6	7.0
Entiat Meadows +	20A33	4540	2/3	102	33.7	34.3	32.3
Entiat River Trail +	20A34	3325	2/3	70	17.5	18.9	14.5
Four Mile Ridge +	20B27	6800	2/3	74	24.4	21.8	30.9
Fox Camp +	20A36	6510	2/3	134	44.2	38.0	44.7
Pope Ridge	20B20	3450	1/27	56	13.9	16.4	15.2
Pugh Ridge +	20A32	6725	2/3	97	32.0	22.9	21.2
Shady Pass	20A37	6200	1/31	70	23.2	22.7	20.7
Snow Brushy +	20A35	3910	2/3	93	23.2	31.6	30.5
Tommy Creek +	20B21	4900	2/3	64	21.1	18.2	22.5

WENATCHEE RIVER

Berne Mill Creek	21B23	3170	11/29	28	4.4	3.0	4.7
			12/30	52	12.0	14.5	11.0
			1/14	52	17.4	-	16.2
			1/31	57	18.8	24.0	21.5
Berne Mill Creek SP	21B41	3240	11/29	28	4.4	2.5	4.9
			1/31	52	19.2	22.2	20.0
Blewett Pass No. 2	20B02	4270	1/19	43	12.0	12.6	13.2
Chiwaukum G.S.	20B16	1810	11/29	13	1.0	0.4	1.5
			12/30	31	7.7	6.2	4.8
			1/14	27	8.6	-	7.1
			1/31	35	11.5	10.9	9.5
Lake Wenatchee	20B05	1970	11/29	16	1.6	0.4	1.7
			12/30	32	7.6	6.2	5.9
			1/14	29	9.9	-	9.7
			1/31	33	11.0	14.1	11.8
Leavenworth R.S.	20B17	1127	2/1	Discontinued		5.9	5.9
Lyman Lake	20A23	5900	1/28	141	47.3	49.9	39.8
Merritt	20B18	2140	11/29	16	2.0	1.0	2.5
			12/30	35	9.0	8.4	7.1
			1/14	32	10.4	-	11.2
			1/31	33	11.6	16.0	14.0
Stevens Pass	21B01	4070	11/29	34	7.2	5.3	8.5
			12/30	68	16.4	22.9	21.9
			1/14	79	28.8	-	30.1
			1/31	92	33.5	38.5	37.3
Stevens Pass Sand Shed	21B45	3700	11/29	28	4.6	3.7	8.2
			12/30	54	14.5	18.6	15.3
			1/14	61	21.4	-	22.5
			1/31	68	23.9	30.4	27.1

COLOCKUM CREEK

Colockum Creek Upper	20B22	5300	2/1	Discontinued		10.6	11.7
Colockum Creek Lower	20B23	4300	2/1	Discontinued		7.8	8.5
Trough # 2	20B25	5310	1/25	42	13.3	11.5	New

MSFB-X4-L

+Aerial stadia observation

#Average based on 1963-1977 Average

SNOW DATA TO FEBRUARY 1, 1983 - APPENDIX 5

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
						Last Year	Average #
<u>SQUILCHUCK CREEK</u>							
Beehive Springs	20B03	4400	1/28	29	7.4	6.8	6.7
Scout-A-Vista	20B04	3400	1/28	33	8.7	6.3	6.9
<u>STEMILT CREEK</u>							
Jump-Off	20B08	4450	2/1	Discontinued		8.4	7.1
Stemilt Slide	20B06	5000	1/27	46	12.6	12.1	11.2
Upper Wheeler	20B07	4400	1/27	43	12.3	8.4	8.4
<u>YAKIMA RIVER</u>							
Ahtanum R. S.	21C11	3100	12/22	31	7.9	5.4	3.2
			1/28	32	9.6	4.6	6.1
Big Boulder Creek	21B09	3200	1/18	39	13.6	-	-
Blewett Pass No. 2	20B02	4270	1/19	43	12.0	12.6	13.2
Bumping Lake Old	21C08	3450	12/29	42	9.6	7.1	6.5
			1/14	37	12.2	8.2	11.2
			1/26	43	13.5	12.1	13.3
Bumping Lake New	21C36	3400	12/29	47	11.8	6.8	8.3
			1/14	44	14.7	10.0	14.2
			1/26	50	16.3	16.1	16.8
Cayuse Pass	21C06	5300	1/31	164	64.7	54.4	59.5
Colockum Pass	20B09	5370	1/21	48	14.9	14.2	11.8
Cooke Creek	20B10	4123	2/1	Discontinued		5.1	5.3
Corral Pass	21B13	6000	2/1	Discontinued		36.9	17.2
Fish Lake	21B04	3371	1/18	64	21.1	-	-
Green Lake	21C10	6000	1/27	101	28.3	36.7	19.5
Grouse Camp	20B11	5385	1/20	59	18.3	15.3	12.3
High Creek	20B12	2930	2/1	Discontinued		4.9	5.5
Joe Lake	21B46	4624	2/1	Discontinued		-	41.8
Lake Cle Elum	21B14	2200	12/30	23	5.0	6.6	3.9
			1/12	14	5.6	7.4	7.7
			1/31	15	5.3	11.8	8.5
Lemah Creek	21B47	3327	2/1	Discontinued		40.9	31.0
Manashtash	20C01	3935	2/1	Discontinued		4.6	4.3
Morse Lake	21C17	5400	2/1	Discontinued		-	38.9
Nanum	20B13	3875	1/20	25	7.8	5.1	7.4
Olallie Meadows	21B02	3625	1/31	55	23.0	42.9	34.9
Satus Pass	20D01	4030	2/1	Discontinued		11.8	8.9
Stampede Pass	21B10	3860	11/29	35	9.3	3.5	6.9
			12/30	61	21.4	17.5	17.4
			1/31	72	28.2	40.2	31.5
Trail Creek	20B14	3360	2/1	Discontinued		4.2	2.9
Tunnel Avenue	21B08	2450	12/30	36	10.4	11.5	8.4
			1/11	38	13.1	13.2	15.0
			1/28	37	13.8	20.0	17.8
Van Epps Pass	20B26	5925	2/1	Discontinued		47.5	39.5
Walters Flat	20B15	3360	2/1	Discontinued		5.8	6.5
Waptus Lake	21B49	3024	2/1	Discontinued		43.0	32.3

#Average based on 1963-1977 Average

SNOW DATA TO FEBRUARY 1, 1983 - APPENDIX 6

SNOW				THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE				Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation					Last Year	Average #

YAKIMA RIVER (Cont.)

White Pass E. Side	21C28	4500	12/28	44	11.9	10.2	10.5
			1/13	51	16.7	15.6	14.4
			1/27	62	19.5	23.4	18.4

AHTANUM CREEK

Ahtanum R.S.	21C11	3100	12/22	31	7.9	5.4	5.2
			1/28	32	9.6	4.6	6.1
Green Lake	21C10	6000	1/27	101	28.3	36.7	19.5

LOWER COLUMBIA DRAINAGE
ASOTIN CREEK

Spruce Springs	17C04	5700	2/1	Discontinued	20.2	18.2
----------------	-------	------	-----	--------------	------	------

MILL CREEK

Homestead	17C01	4030	2/1	Discontinued	10.5	7.2
Martin Springs	17C02	4400	2/1	Discontinued	12.7	10.3
High Ridge	18D19	4150	1/28	62	20.4	29.6
						17.7

Klickitat River

Satus Pass	20D01	4030	2/1	Discontinued	11.8	8.9
------------	-------	------	-----	--------------	------	-----

Cowlitz River

Cayuse Pass	21C06	5300	1/31	164	64.7	54.4	59.5
White Pass E. Side	21C28	4500	12/28	44	11.9	10.2	10.5
			1/13	51	16.7	15.6	14.4
			1/27	62	19.5	23.4	18.4

PUGET SOUND DRAINAGE
White River

Cayuse Pass	21C06	5300	1/31	164	64.7	54.4	59.5
Corral Pass	21B13	6000	2/1	Discontinued		36.9	17.2
Morse Lake	21C17	5400	2/1	Discontinued		-	38.9

Green River

Airstrip	21B24	1800	1/6	10	2.4	4.3	1.8
			1/31	0	0.0	4.6	5.6
Charley Creek	21B25	1200	1/6	0	0.0	1.3	1.5
			1/31	0	0.0	0.0	1.3

#Average based on 1963-1977 Average

SNOW DATA TO FEBRUARY 1, 1983 - APPENDIX 7

SNOW				THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE				Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation					Last Year	Average #

GREEN RIVER (Cont.)

Cougar Mountain	21B42	3200	2/1	Discontinued	24.0	17.3	
Grass Mtn. No. 2	21B27	2900	1/31	13	3.8	12.7	15.2
Grass Mtn. No. 3	21B28	2100	1/31	0	0.0	6.3	5.2
Lester Creek	21B29	3100	1/6	39	10.6	11.7	8.5
			1/31	33	10.6	18.0	17.5
Lynn Lake	21B50	4000	1/6	24	6.8	15.1	8.5
			1/31	22	7.5	25.4	18.2
Sawmill Ridge	21B31	4700	1/6	45	13.6	15.8	13.7
			1/31	58	19.6	28.8	27.5
Snowshoe Butte	21B43	5000	2/1	Discontinued	49.6	40.8	
Stampede Pass	21B10	3860	11/29	35	9.3	3.5	6.9
			12/30	61	21.4	17.5	17.4
			1/31	72	28.2	40.2	31.5
Twin Camp	21B30	4100	1/6	38	12.3	-	10.6
			1/31	47	15.5	26.0	18.4

SNOQUALMIE RIVER

Olallie Meadows	21B02	3625	1/31	55	23.0	42.9	34.9
-----------------	-------	------	------	----	------	------	------

SKYKOMISH RIVER

Stevens Pass	21B01	4070	11/29	34	7.2	5.3	8.5
			12/30	68	16.4	22.9	21.9
			1/14	79	28.8	-	30.1
			1/31	92	33.5	38.5	37.3
Stevens Pass Sand Shed	21B45	4070	11/29	28	4.6	3.7	8.2
			12/30	54	14.5	18.6	15.3
			1/14	61	21.4	-	22.5
			1/31	68	23.9	30.4	27.1

SKAGIT RIVER

Beaver Creek Trail	21A04	2200	1/27	31	10.7	13.4	12.2
Beaver Pass	21A01	3680	1/28	65	24.1	23.6	24.4
Brown Top Ridge	21A28	6000	1/28	130	39.2	46.5	48.1
Cloudy Pass	20A22	6500	2/1	Not Measured	-	-	30.0
Devils Park	20A04	5900	1/27	97	30.4	32.6	34.0
Freezeout Creek Trail	20A01	3500	1/28	34	9.7	11.7	11.3
Freezeout Meadows New	20A38	5000	1/28	100	37.3	23.0	28.2
Granite Creek	21A29	3500	1/28	51	14.6	13.9	16.3
Harts Pass	20A05A	6500	1/28	102	31.3	30.0	34.2
Klesilkwa	3D03A-Can	3700	1/28	24	9.9	14.7	9.5*
Lightning Lake	3D02-Can	4000	2/1	Not Measured	-	-	5.8*
Lyman Lake	20A23	5900	1/28	141	47.3	49.9	39.8
Meadow Cabins	20A08	1900	1/28	13	4.1	7.1	6.9
New Hozomeen Lake	21A30	2800	1/28	28	8.4	9.7	10.5

#Average based on 1963-1977 Average

*Average for years of record

SNOW DATA TO FEBRUARY 1, 1983 - APPENDIX 8

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #

SKAGIT RIVER (Cont.)

New Tashme	3D01A-Can	2500	2/1	18	6.0	11.2	8.3*
Rainy Pass	20A09	4780	1/28	90	27.4	29.8	30.9
Thunder Basin	20A07	4200	1/28	51	16.0	8.0	17.0

BAKER RIVER

Dock Butte +	20A11A	3800	12/27	102	36.0	29.0	27.8
			1/29	90	36.0	-	47.4
Easy Pass +	21A07A	5200	12/27	66	23.0	23.0	30.9
			1/29	132	53.0	-	51.7
Jasper Pass +	21A06A	5400	12/27	120	42.0	39.0	43.0
			1/29	169	77.0	-	66.5
Marten Lake	21A09A	3600	12/27	107	37.0	27.0	34.8
			1/29	125	50.0	-	55.4
Mt. Blum +	21A18a	5800	12/27	58	20.0	19.0	30.4
			1/29	114	66	-	48.4
Rocky Creek	21A12A	2100	12/27	32	11.0	20.0	13.0
			1/29	40	14.0	-	24.7
Schreibers Meadow	21A10A	3400	12/27	76	27.0	25.0	24.9
			1/29	72	29.0	-	41.0
S. F. Thunder Creek +	21A14A	2200	12/27	11	4.0	8.0	5.4
			1/29	0	0.0	-	10.0
Watson Lakes	21A08A	4500	12/27	72	25.0	23.0	27.5
			1/29	111	44.0	-	44.4

NOOKSACK RIVER

Glacier Creek	21A23	3700	2/1	Discontinued	-	8.5
Panorama New	21A26	4300	2/1	Discontinued	-	48.7

O L Y M P I C P E N I N S U L A D R A I N A G E

DUNGENESS RIVER

Deer Park	23B04	5200	1/31	52	17.8	18.6	15.2
-----------	-------	------	------	----	------	------	------

MORSE CREEK

Cox Valley	23B14	4500	1/30	81	30.2	32.4	29.1
------------	-------	------	------	----	------	------	------

ELWHA RIVER

Hurricane	23B03	4500	1/27	46	15.1	15.2	16.4
-----------	-------	------	------	----	------	------	------

#Average based on 1963-1977 Average

*Average for years of record

+Aerial stadia observation

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average †
<u>PEND OREILLE RIVER</u>							
Bunchgrass Meadow	17A01	5000	1/1		13.5	8.3	
			1/31		24.3	14.7	
<u>OKANOGAN & METHOW RIVERS</u>							
Harts Pass	20A05	6500	1/1		16.7	-	
		GT	1/28	102	31.3 (29.8)		
			2/1		30.0	-	
Salmon Meadow	19A02	4500	1/1		11.2	-	
			2/1		19.6	9.0	
<u>CHELAN LAKE BASIN</u>							
Lyman Lake	20A23	5900	1/1		28.4	-	
		GT	1/28	137	37.8 (37.8)		
			2/1		38.2		
Mirror Lake	20A39	5600	1/1		-	17.4	
		GT	1/28	84	26.8 (-)		
			2/1		-	-	
Park Creek Ridge	20A12	4600	1/1		17.4	19.3	
		GT	1/28	103	35.5 (31.0)		
			1/31		31.4	34.3	
Rainy Pass	20A09	4780	1/1		14.4	-	
		GT	1/28	90	27.4 (27.9)		
			2/1		29.2	-	
<u>ENTIAT RIVER</u>							
Pope Ridge	20B20	3450	1/1		10.4	10.7	
		GT	1/27	58	15.5 (15.0)		
			2/1		14.8	17.2	
<u>WENATCHEE RIVER</u>							
Blewett Pass	20B02	4270	1/1		9.0	9.3	
		GT	1/19	43	12.0 (12.5)		
			2/1		14.6	16.9	
Lyman Lake	20A23	5900	1/1		28.4	-	
		GT	1/28	137	37.8 (37.8)		
			2/1		38.2	-	
Stevens Pass	21B01	4070	1/1		20.7	14.6	
			2/1		18.2	29.2	

GT = Ground Truth measurement at SNOTEL site

NOTE: () following Ground Truth Measurement is SNOTEL reading on same date.

SNOTEL READINGS, 1983 - APPENDIX 2

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average †

WENATCHEE RIVER (Cont.)

Trough # 2	20B25	5300	1/1		-	10.7
		GT	1/25	42	13.3 (-)	
			2/1		13.9	11.7

COLOCKUM CREEK

Trough # 2	20B25	5300	1/1		-	10.7
		GT	1/25	42	13.3 (-)	
			2/1		13.9	11.7

STEMILT CREEK

Upper Wheeler	20B07	4400	1/1		15.3	15.4
			2/1		22.6	21.0

YAKIMA RIVER

Big Boulder Creek	21B09	3200	1/1		11.9	14.8
		GT	1/18	41	13.0 (14.5)	
			2/1		15.9	24.0
Bumping Ridge	21C38	4600	1/1		-	2.6
		GT	1/26	69	22.4 (-)	
			2/1		-	4.1
Corral Pass	21B13	6000	1/1		15.1	16.8
			2/1		24.8	30.3
Fish Lake	21B04	3371	1/1		-	-
		GT	1/18	64	21.1 (-)	
			2/1		-	-
Green Lake	21C10	6000	1/1		12.8	13.7
		GT	1/27	101	28.3 (20.1)	
			2/1		20.9	20.1
Grouse Camp	20B11	5385	1/1		11.9	-
		GT	1/20	59	18.3 (17.5)	
			2/1		16.2	-
Morse Lake	21C17	5400	1/1		28.6	28.3
			2/1		48.1	44.9
White Pass (E.S.)	21C28	4500	1/1		10.9	11.2
		GT	1/27		19.5 (19.5)	
			2/1		19.4	23.6

GT = Ground Truth Measurement at SNOTEL site

MSFB-X4-L

NOTE: () following GT measurement is SNOTEL reading on same date.

SNOTEL READINGS, 1983 - APPENDIX 3

SNOW			THIS YEAR			PAST RECORD	
- DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average †

AHTANUM CREEK

Green Lake	21C10	6000	1/1		12.8	13.7
		GT	1/27	101	28.3	(20.1)
			2/1		20.9	20.1

TOUCHET RIVER

Touchet # 2			1/1		14.2	19.1
			2/1		21.8	37.5

LEWIS RIVER

June Lake	22C09	3200	1/1		-	19.0
			2/1		-	31.7
Lone Pine Shelter	21C26	3800	1/1		-	18.0
			2/1		28.3	35.9
Plains of Abraham	22C01	4400	1/1		-	43.4
			2/1		-	-
Sheep Canyon	22C10	4050	1/1		-	12.1
			2/1		-	33.8
Spencer Meadow	21C20	3400	1/1		17.0	-
			2/1		21.1	-
Surprise Lakes	21C13	4250	1/1		-	27.7
			2/1		32.7	48.4
		GT	1/31	91	31.3	(32.4)

COWLITZ RIVER

Pigtail Peak	21C33	5900	1/1		21.0	25.0
			2/1		36.2	43.7
Potato Hill	21C14	4500	1/1		-	13.0
			2/1		-	20.4
Sheep Canyon	22C10	4050	1/1		-	12.1
			2/1		-	33.8
Strawberry Landing	22C08	3280	1/1		16.7	29.9
			2/1		25.5	51.3

GT = Ground Truth measurement at SNOTEL site

NOTE: () following GT measurement is SNOTEL reading on same date.

SNOTEL READINGS, 1983 - APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average †

NISQUALLY RIVER

Paradise Park	21C35	5500	1/1		-	31.8
			2/1		-	-

WHITE RIVER

Corral Pass	21B13	6000	1/1		15.1	16.8
			2/1		24.8	30.3
Morse Lake	21C17	5400	1/1		28.6	28.3
			2/1		48.1	44.9

GREEN RIVER

Cougar Mountain	21B42	3200	1/1		4.8	12.1
			2/1		6.0	23.0
Stampede Pass	21B10	3860	1/1		12.0	18.9
		GT	2/1	75	28.5 (27.0)	
			2/1		27.0	44.1

SNOQUALMIE RIVER

Olallie Meadows East	21B55	3960	1/1		22.1	-
			2/1		35.9	-

GT = Ground Truth Measurement at SNOTEL site

NOTE: () following GT measurement is SNOTEL reading on same date.

SNOTEL PRECIPITATION GAGES

Amount of precipitation in inches recorded on or near the last day of each month.

DATE	Big Boulder	Blewett Pass	Bumping Lake	Bunchgrass Mdw
	Recharge	Recharge	Recharge	Recharge
10-1-81				
10-31-81	4.3	3.0	9.6	4.7
11-30-81	9.0	5.6	11.7	9.7
12-31-81	-	14.1	19.7	16.3
1-31-82	-	23.4	25.4	16.3
2-28-82	-	28.0	-	25.7
3-31-82	27.7	28.2	-	30.8
4-30-82	30.2	29.9	-	37.6
5-31-82	30.8	30.6	-	39.6
6-30-82	31.6	31.9	59.6	43.1
7-31-82	32.2	32.4	62.4	45.2
8-31-82	32.3	32.9	63.0	47.2
9-30-82	34.9	34.5	65.4	52.6

DATE	Corral Pass	Cougar Mtn.	Fish Lake	Green Lake
	Recharge	Recharge	Recharge	Recharge
10-1-81				
10-31-81	2.3	8.5	5.7	-
11-30-81	8.6	14.4	10.1	6.4
12-31-81	21.1	32.0	20.9	18.8
1-31-82	34.9	54.4	31.9	-
2-28-82	46.7	64.2	52.6	-
3-31-82	52.7	65.8	62.3	-
4-30-82	59.5	-	63.5	-
5-31-82	61.1	64.1	64.1	-
6-30-82	62.5	66.5	64.5	-
7-31-82	65.3	-	66.1	-
8-31-82	66.9	-	67.2	Recharge
9-30-82	71.1	119.5	71.1	2.4

DATE	Harts Pass	June Lake	Lone Pine	Morse Lake
	Recharge	Recharge	Recharge	Recharge
10-1-81				
10-31-81	3.3	23.2	13.5	9.3
11-30-81	8.2	45.4	25.6	21.2
12-31-81	17.0	-	43.1	28.8
1-31-82	27.7	118.0	51.9	39.3
2-28-82	31.6	159.1	82.0	-
3-31-82	40.1	183.8	92.3	-
4-30-82	44.3	204.9	100.7	-
5-31-82	47.4	206.7	-	-
6-30-82	47.6	-	-	77.9
7-31-82	53.1	-	148.9	87.4
8-31-82	-	-	150.4	88.0
9-30-82	51.6	217.2	156.0	91.5

DATE	Olallie Meadows	Paradise	Park Creek Ridge	Pigtail Peak
	Recharge	Recharge	Recharge	Recharge
10-1-81	3.5	-	4.1	4.2
10-31-81	11.9	9.7	6.0	11.2
11-30-81	34.6	32.6	20.9	22.5
12-31-81	-	39.6	34.6	25.6
1-31-82	-	72.9	49.8	34.9
2-28-82	-	84.8	54.8	40.5
3-31-82	-	102.7	58.4	49.7
4-30-82	-	-	60.2	-
5-31-82	117.4	-	61.1	52.8
6-30-82	123.1	-	63.7	54.7
7-31-82	125.5	-	65.8	55.7
8-31-82	134.0	-	68.2	59.2
9-30-82				

DATE	Pope Ridge	Potato Hill	Rainy Pass	Salmon Mdw.
	Recharge	Recharge	Recharge	Recharge
10-1-81	0.5	5.4	4.2	4.6
10-31-81	5.3	14.0	9.6	-
11-30-81	13.0	29.2	19.3	-
12-31-81	25.8	46.1	28.7	16.2
1-31-82	-	-	29.9	18.7
2-28-82	-	-	30.6	23.8
3-31-82	-	-	-	26.9
4-30-82	-	-	54.2	28.2
5-31-82	61.0	75.2	57.7	30.7
6-30-82	58.5	77.1	61.9	35.4
7-31-82	59.4	78.0	63.4	38.2
8-31-82	60.9	82.4	67.0	39.2
9-30-82				

DATE	Sheep Canyon	Spencer Meadow	Stevens Pass	Strawberry Landing
	Recharge	Recharge	Recharge	Recharge
10-1-81	19.4	10.0	-	9.7
10-31-81	33.5	23.2	4.2	28.4
11-30-81	56.8	44.7	14.6	43.3
12-31-81	96.9	64.9	28.9	56.6
1-31-82	-	-	42.0	70.4
2-28-82	138.6	-	47.3	78.2
3-31-82	155.7	72.3	51.6	91.0
4-30-82	-	72.9	53.0	92.6
5-31-82	85.4	75.3	53.6	95.2
6-30-82	88.1	80.7	55.5	96.9
7-31-82	90.6	81.9	-	-
8-31-82	99.1	86.6	95.6	125.4
9-30-82				

DATE	Surprise Lakes	Touchet	Trough # 2	Upper Wheeler
	Recharge	Recharge	Recharge	Recharge
10-1-81	8.5	4.4	3.7	4.3
10-31-81	22.6	11.1	8.0	10.1
11-30-81	45.4	23.8	13.1	16.3
12-31-81	65.7	38.8	16.0	21.6
1-31-82	85.4	-	19.5	29.1
2-28-82	96.9	-	-	-
3-31-82	109.2	27.5	-	-
4-30-82	111.5	30.3	20.6	33.0
5-31-82	-	33.2	22.1	35.8
6-30-82	115.3	35.9	23.4	35.8
7-31-82	116.1	36.7	23.7	-
8-31-82	121.1	38.9	25.5	36.6
9-30-82				

DATE	White Pass
	Recharge
10-1-81	4.1
10-31-81	8.4
11-30-81	16.7
12-31-81	28.6
1-31-82	41.2
2-28-82	43.0
3-31-82	46.5
4-30-82	47.2
5-31-82	48.7
6-30-82	-
7-31-82	48.7
8-31-82	51.6
9-30-82	

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Ministry of the Environment, Water
Investigations Branch, Victoria, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
Corps of Engineers
U. S. Department of Agriculture
Forest Service
U. S. Department of Commerce
NOAA, National Weather Service
U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ROOM 360, U.S. COURT HOUSE
SPOKANE, WASHINGTON 99201

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300



POSTAGE AND FEES PAID
U. S. DEPARTMENT OF
AGRICULTURE
AGR-101

FIRST CLASS MAIL

**FEDERAL - STATE - PRIVATE
COOPERATIVE SNOW SURVEYS**

Furnishes the basic data
necessary for forecasting
water supply for irrigation,
domestic and municipal water
supply, hydro-electric power
generation, navigation,
mining and industry

*"The Conservation of Water begins
with the Snow Survey"*